

**TENNESSEE DEPARTMENT OF REVENUE  
LETTER RULING # 08-29**

**WARNING**

**Letter rulings are binding on the Department only with respect to the individual taxpayer being addressed in the ruling. This presentation of the ruling in a redacted form is informational only. Rulings are made in response to particular facts presented and are not intended necessarily as statements of Department policy.**

**SUBJECT**

Whether the sale of DSL services to Internet access providers, end user customers or telecommunications wholesalers are taxable.

**SCOPE**

This letter ruling is an interpretation and application of the tax law as it relates to a specific set of existing facts furnished to the department by the taxpayer. The rulings herein are binding upon the Department and are applicable only to the individual taxpayer being addressed.

This letter ruling may be revoked or modified by the Commissioner at any time.

Such revocation or modification shall be effective retroactively unless the following conditions are met, in which case the revocation shall be prospective only:

- (A) The taxpayer must not have misstated or omitted material facts involved in the transaction;
- (B) Facts that develop later must not be materially different from the facts upon which the ruling was based;
- (G) The applicable law must not have been changed or amended;
- (D) The ruling must have been issued originally with respect to a prospective or proposed transaction; and
- (E) The taxpayer directly involved must have acted in good faith in relying upon the ruling; and a retroactive revocation of the ruling must inure to the taxpayer's detriment.

## **FACTS**

[THE TAXPAYER] provides voice and data communications products and services to consumers and businesses at wholesale and retail. The Taxpayer provides these services in approximately [NUMBER OF] major metropolitan areas in [NUMBER OF] states. The Taxpayer is a regulated entity holding a Certificate of Public Convenience and Necessity or other regulatory license issued by the states' commissions charged with the responsibility of regulating the telecommunications industry.

The Taxpayer's services include high-speed or broadband data communications, Internet access connectivity, Voice over Internet Protocol telephony, and a variety of related services. The Taxpayer primarily uses digital subscriber line ("DSL") and DS-1, also referred to as T-1, technologies to deliver their services.

The Taxpayer's DSL Network utilizes existing 2-wire copper telephone wiring, DSL routing equipment, high speed transmission circuits, and Internet encapsulation and routing protocols to provide its end users with a high speed connection to the Internet. By using these technologies, the Taxpayer transmits a signal at 30KHz to 100KHz. Since simple voice is transmitted at .3KHz to 3.5KHz, the two signals can occupy the same physical wire.

The Taxpayer provides DSL services in two general forms. The first is referred to as DSL+IP or Broadband Internet Access. This service is a Layer 3 data service that provides a DSL connection to the Internet at the Taxpayer's point of presence ("POP"). The DSL circuit actually connects to the Taxpayer's POP. Layer 3 service allows the end user to connect directly to the Internet. The additional IP services include end-user authentication, authorization and accounting, IP address assignment and management, domain name service and IP routing and connectivity.

The second general category of service is DSL connectivity, which the Taxpayer provides to its wholesale partners. These partners are either telecommunications carriers, Internet service providers ("ISPs"), or other resellers. These resellers utilize the Taxpayer's DSL and T-1 connections and add their own Internet access services.

### **DSL NETWORK**

Internet traffic is routed through the Taxpayer's DSL service network (the "Network") based on the Open Systems Interconnection ("OSI") model as developed and defined by the International Organization for Standardization. The OSI model defines a standard networking framework for the transmission of data. The basic network model is able to support a variety of protocols, such as Internet protocol ("IP"), for data transmission. The layers of the OSI model consist of the following:

- Layer 1 – Physical
- Layer 2 – Data Link
- Layer 3 – Internet
- Layer 4 – Transport
- Layer 5 – Session
- Layer 6 – Presentation
- Layer 7 – Application

In the OSI model, data transmission is passed from one layer to the next, starting at the Application level, and then up the hierarchy. Essentially, each layer provides a different, but necessary, function for data to be transmitted through the Network. The Taxpayer has provided an illustration and detailed explanation of the seven protocol layers of the OSI model.

The Taxpayer's service is designed as a multi-level service, providing a bundle of Layer 1, Layer 2, and Layer 3 services via standard IPs. In other words, Layer 1 is the pure hardware or the line that is leased by Taxpayer from telecommunications providers, Layer 2 splits data into packets to be sent across the Network and Layer 3 receives the packets from the data link layer and directs them to the correct network addresses. Internet routing equipment such as Digital Subscriber Line Access Multiplexers owned by the Taxpayer make it possible for it to provide this multi-level service via its Network.

### **DSL TRANSMISSION**

DSL technology utilizes more bandwidth and frequency on copper telephone lines than what is currently used for simple voice telephone service. In order to utilize these frequencies, special DSL equipment is installed at the locations of both the end-user and its serving central office. A central office is generally a facility and transmission plant that is owned and operated by an incumbent local exchange carrier.<sup>1</sup>

At the end-user's location, a DSL modem is installed and/or connected to the end-user's computer. When an end-user attempts to access the Internet, the end-user's data transmission is translated into a DSL signal by the DSL modem. The DSL modem separates data from voice into IP data packets that will travel over the copper telephone lines. In addition, the DSL modem affixes a header to each data packet. The header generally provides an IP address which reflects that data's ultimate destination. These data packets compose the DSL signal which is then sent over the existing copper telephone lines from the end-user's premises to the central office. At the central office, the data packets are processed by a splitter which routes voice transmissions to the public switched telephone network and DSL transmissions to a Digital Subscriber Line Access Multiplexer. Also, another header used to identify the location is added to the data packet at the central office. This process is called "data encapsulation" and is referred to in the OSI model as Layer 2. The Taxpayer's equipment at the central offices then routes the encapsulated DSL transmission signal from the copper telephone lines to their Network.

The data packet is routed though the Network via Asynchronous Transfer Mode ("ATM") switching technology, a protocol that packs digital information into 53-byte cells that are switched throughout the Network over virtual circuits. This ATM switching technology reflects Layer 2 as well. The ATM's packet switching technology determines the most efficient way to route data from the source to the destination endpoint. The Taxpayer's use of ATM switching technology allows it to support Internet protocols which have been defined by the Internet Engineering Task Force. Accordingly, all traffic to/from the Internet is thereby routed from/to the end-user's location

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<sup>1</sup> An incumbent local exchange carrier is a telephone company that was providing local service when the Telecommunications Act of 1996 was enacted.

through Taxpayer's Network via well-established standards defined by the Internet Engineering Task Force.

As mentioned earlier, the Taxpayer's Network is comprised of routing equipment, such as Digital Subscriber Line Access Multiplexers, located at central offices throughout the United States that are connected by high capacity/transmission lines. Accordingly, data transmitted through the Taxpayer's Network may be routed through central offices located in different states. Once the DSL transmission has been routed through the Network, it will emerge from the Network at either a central office and the Taxpayer's Digital Subscriber Line Access Multiplexer closest to the ISP or the ISP's POP. If the ISP desires the data be delivered to its POP, the Taxpayer will assign a high-speed line, commonly referred to as a high-capacity circuit or DS-3 line, connecting its Network to the ISP's POP. This method may also be used by a non-ISP that maintains its own POP.

Once the individually-owned POP receives this direct transmission, the transmission goes from the Taxpayer's servers to the Internet. From the Internet, transmissions will return downstream, back through the servers and through the Taxpayer's Network toward the end-user.

Although the above explanation segments the transmission into several parts, in reality a DSL transmission will travel seamlessly from the end user, through the Taxpayer's Network, through the ISP's servers and gateways to the Internet at a rate many times faster than traditional dial-up connections.

## **QUESTIONS**

1. With respect to the Internet Tax Freedom Act, 47 U.S.C. § 151 note,<sup>2</sup> will Tennessee impose a telecommunications-based transaction tax, such as a sales, use, excise, utility or gross receipts tax on the DSL services the Taxpayer provides to its customers?
2. With respect to the Internet Tax Freedom Act, 47 U.S.C. § 151 note, will Tennessee impose a telecommunications-based transaction tax, such as a sales, use, excise, utility or gross receipts tax on the sale of Layer 2 communications services to a non-Internet service provider that owns its own point of presence?
3. With respect to the Internet Tax Freedom Act, 47 U.S.C. § 151 note, will Tennessee impose a telecommunications-based transaction tax, such as a sales, use, excise, utility or gross receipts tax on the services the Taxpayer purchases in order to provide DSL services?

## **RULINGS**

1. Tennessee will not impose the Tennessee sales and use tax on the retail sale of DSL Internet access services provided directly to end-user customers. However, the sale of DSL services will be subject to the sales and use tax to the extent that such services do not constitute Internet

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<sup>2</sup> Internet Tax Freedom Act (Pub. L. No. 105-277, §§ 1100-1104, 112 Stat. 2681-719 (1998) (set out at note to 47 U.S.C. § 151), amended by Pub. L. No. 107-75, § 2, 115 Stat. 703 (2001), Pub. L. No. 108-435, §§ 2-6, 6A, 118 Stat. 2615 (2004)).

access services. Tennessee does not have any other applicable telecommunications-based transaction tax.

2. Yes. Tennessee will impose the Tennessee sales and use tax on the sale of Layer 2 transmission services to a non-Internet service provider that owns its own point of presence.
3. Tennessee will not impose the Tennessee sales and use tax on the telecommunications services the Taxpayer purchases in order to provide DSL Internet access services, provided that the Taxpayer uses such telecommunications services exclusively to provide Internet access services. Tennessee does not have any other applicable telecommunications-based transaction tax.

### ANALYSIS

Retail sales in Tennessee are subject to sales and use tax under Tenn. Code Ann. § 67-6-101 *et seq.* Tenn. Code Ann. § 67-6-102(68) (2007) defines a “retail sale” to include any “sale, lease or rental for any purpose other than for resale, sublease or subrent.” The term “sale” includes “the furnishing of any of the things or services taxable” under the Tennessee sales and use tax laws. Tenn. Code Ann. § 67-6-102(70)(A)&(D) (2007). The sale of telecommunications services is subject to sales tax pursuant to Tenn. Code Ann. § 67-6-205(c)(3) (2007).

The term “telecommunications service” is defined under Tenn. Code Ann. § 67-6-102(81)(A) (2007) as the “electronic transmission, conveyance, or routing of voice, data, audio, video, or any other information or signals to a point, or between or among points.” The term includes transmission, conveyance, or routing “in which computer processing applications are used to act on the form, code or protocol of the content for purposes of transmission, conveyance or routing without regard to whether such service is referred to as voice over Internet protocol services or is classified by the Federal Communications Commission as enhanced or value added.” *Id.* However, Tenn. Code Ann. § 67-6-102(81)(B)(vi) (2007) specifically excludes Internet access services from the definition of “telecommunications services.” Furthermore, Internet access service is not listed under Tenn. Code Ann. § 67-6-205(c)(3)(2007) as any of the other specifically enumerated taxable services.

The Internet Tax Freedom Act (“ITFA”), 47 U.S.C. § 151 note,<sup>3</sup> prohibits Tennessee from imposing the Tennessee sales and use tax upon the retail sale of Internet access services. The ITFA is federal legislation that preempts any Tennessee laws relating to the taxation of Internet access or telecommunications services purchased by Internet access providers.<sup>4</sup>

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<sup>3</sup> Internet Tax Freedom Act (Pub. L. No. 105-277, §§ 1100-1104, 112 Stat. 2681-719 (1998) (set out at note to 47 U.S.C. § 151), amended by Pub. L. No. 107-75, § 2, 115 Stat. 703 (2001), Pub. L. No. 108-435, §§ 2-6, 6A, 118 Stat. 2615 (2004), Pub. L. No. 110-108, §§ 2-6, 121 Stat. 1024 (2007)).

<sup>4</sup> The doctrine of preemption stems from the Supremacy Clause, U.S. CONST. art. VI, cl. 2, which gives federal law precedence over a conflicting state law. *See Cipollone v. Liggett Group, Inc.*, 505 U.S. 504 (1992).

### The retail sale of DSL services provided directly to end-user customers

Tennessee will not impose the Tennessee sales and use tax on the retail sale of DSL Internet access services provided directly to end-user customers. Under both the Internet Tax Freedom Act (“ITFA”) and the Tennessee sales and use tax laws, the retail sale of DSL Internet access services to end-user customers is not subject to Tennessee sales and use taxation. However, the sale of DSL services will be subject to the Tennessee sales and use tax to the extent that such services do not constitute Internet access services.

First, the ITFA prohibits Tennessee from imposing the Tennessee sales and use tax upon the retail sale of Internet access services. The ITFA is federal legislation that preempts any Tennessee laws relating to the taxation of Internet access or telecommunications services purchased by Internet access providers.

ITFA § 1105(5), 47 U.S.C. § 151, note, provides that the term “Internet access:”

- (A) means a service that enables users to connect to the Internet to access content, information, or other services offered over the Internet;

- (B) includes the purchase, use or sale of telecommunications by a provider of a service described in subparagraph (A) to the extent such telecommunications are purchased, used or sold—

- (i) to provide such service; or

- (ii) to otherwise enable users to access content, information or other services offered over the Internet;

- (C) includes services that are incidental to the provision of the service described in subparagraph (A) when furnished to users as part of such service, such as a home page, electronic mail and instant messaging (including voice- and video-capable electronic mail and instant messaging), video clips, and personal electronic storage capacity;

- (D) does not include voice, audio or video programming, or other products and services (except services described in subparagraph (A), (B), (C), or (E)) that utilize Internet protocol or any successor protocol and for which there is a charge, regardless of whether such charge is separately stated or aggregated with the charge for services described in subparagraph (A), (B), (C), or (E); and

- (E) includes a homepage, electronic mail and instant messaging (including voice- and video-capable electronic mail and instant messaging), video clips, and personal electronic storage capacity, that are provided independently or not packaged with Internet access.

The ITFA was amended in 2004 with passage of the Internet Tax Nondiscrimination Act, Pub. L. No. 108-435, 118 Stat. 2615, in which Congress clarified the definition of “Internet access” under the ITFA to include telecommunications services “to the extent that such services are purchased, used, or sold by a provider of Internet access to provide Internet access.”

The facts provided indicated that most if not all of the Taxpayer's DSL services come within the definition of "Internet access" under the ITFA. The ITFA is applicable to such services, and prohibits Tennessee from imposing the Tennessee sales and use tax upon the retail sale of DSL Internet access services by the Taxpayer. As noted above, the sale of DSL services will be subject to the Tennessee sales and use tax to the extent that such services do not come within the definition of "Internet access" services under the ITFA.

Second, the retail sale of DSL Internet access services by the Taxpayer is not subject to Tennessee sales and use taxation, pursuant to the Retailers' Sales Tax Act. As noted above, the retail sale of tangible personal property in Tennessee and certain services is generally subject to the Tennessee sales and use tax. Tenn. Code Ann. § 67-6-205(c)(3) imposes the sales tax on "the furnishing, for a consideration, of intrastate, interstate or international telecommunications services."

The term "telecommunications service" is defined under Tenn. Code Ann. § 67-6-102(81) as the "electronic transmission, conveyance, or routing of voice, data, audio, video, or any other information or signals to a point, or between or among points." The term includes transmission, conveyance, or routing "in which computer processing applications are used to act on the form, code or protocol of the content for purposes of transmission, conveyance or routing without regard to whether such service is referred to as voice over Internet protocol services or is classified by the Federal Communications Commission as enhanced or value added." *Id.* However, Tenn. Code Ann. § 67-6-102(81)(B)(vi) specifically excludes Internet access services from the definition of "telecommunications services." Furthermore, Internet access service is not listed under Tenn. Code Ann. § 67-6-205(c)(3) as any of the other specifically enumerated taxable services. Thus, irrespective of the ITFA, retail sales of Internet access services are not subject to Tennessee sales and use tax.

Accordingly, if the Taxpayer's activity is properly characterized under the ITFA as the furnishing of Internet access services, the provision of such services is not subject to the Tennessee sales and use tax. On the other hand, if the Taxpayer's activity is properly characterized as the furnishing of a "telecommunications service" as defined under Tenn. Code Ann. § 67-6-102(81)(A), the provision of such services is subject to the Tennessee sales and use tax.

1. The sale of Layer 2 transmission services to a non-Internet service provider that owns its own point of presence

Tennessee will impose sales and use tax on the sale of Layer 2 transmission services to a non-Internet service provider that owns its own point of presence.

Layer 2 is the data link layer of the seven-layer Open Systems Interconnection Basic Reference Model, which is a layered, abstract description for communications and computer network protocol design. Layer 2 responds to service requests from the network layer (which is responsible for source-to-destination packet delivery), and issues service requests to the physical layer (which provides the means of transmitting raw bits rather than packets over a physical data link connecting network nodes). Layer 2 is the layer that transfers data between adjacent network nodes in a wide area network or between nodes on the same local area network segment.

In some cases, the Taxpayer directly connects a high capacity line between its network and a customer's point of presence ("POP").<sup>7</sup> The POP is an access point to the Internet. Once the individually-owned POP receives this direct high capacity line, transmissions go from the POP, through the Taxpayer's servers, to the Internet. From the Internet, transmissions will return downstream, back through the servers and through the Taxpayer's Network toward the end-user. The Layer 2 data link service is part of a chain of data transmissions that allows a non-Internet service provider, with its own POP, to connect to the Internet. The Layer 2 transmission service is necessary to provide a connection to the Internet for end-user customers who have their own POPs.

As stated previously, the IFTA defines "Internet access" to mean "a service that enables users to connect to the Internet to access content, information, or other services offered over the Internet," and includes the purchase, use or sale of telecommunications by a provider of such service "to the extent such telecommunications are purchased, used or sold (i) to provide such service; or (ii) to otherwise enable users to access content, information or other services offered over the Internet." ITFA § 1105(5), 47 U.S.C. § 151, note.

However, the Congressional Record for the IFTA addresses the potential for misinterpretation of this new definition of Internet access. *See* H.R. 3867, 110<sup>th</sup> Cong. (2007), 153 Cong. Rec. H. 12170 (2007) (enacted). The Congressional history clarifies that the current definition for Internet access was meant to eliminate prior language that "could have been interpreted to allow an Internet service provider to bundle content, information, and services that might otherwise be taxable with Internet access and claim that the entire package is exempt." *Id.* Furthermore, the IFTA does not exempt "telecommunications services provided over the same facilities that are not used to provide Internet access." Pub. L. No. 108-435 (Senate Report 108-155, 108th Congress, 1st Session, p. 4). Finally, the current definition of Internet access "is not meant to affect States and local taxation of traditional telecommunications services and other services that are not used to provide Internet access. For example, the moratorium does not allow an Internet access provider to claim or to seek immunity from State or local taxes for the provision of other services, such as cable television programming, that are separate from Internet access." *Id.*

The Layer 2 transmission service allows the POP to transmit data to the Internet and receive data from the Internet. The POP acts as a demarcation or interface point between communication entities. The Layer 2 transmission service allows communications entities, *i.e.*, the POP and the Internet, to communicate through data transmission. The customer's POP, not the Layer 2

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<sup>5</sup> An Internet point of presence is an access point to the Internet. It is a physical location that houses servers, routers, ATM switches and digital/analog call aggregators. It may be either part of the facilities of a telecommunications provider that the Internet service provider rents, or a location separate from the telecommunications provider. ISPs typically have multiple POPs, sometimes numbering in the thousands.



transmission service, allows the customer to access the Internet. Accordingly, the POP owned by the customer is the access point for the Internet; the Layer 2 service is merely an electronic transmission, conveyance or routing of data between or among points. As such, the Layer 2 transmission service is properly characterized as a telecommunications service pursuant to Tenn. Code Ann. § 67-6-102(81)(A) (2007). As discussed above, the Congressional record indicates that telecommunications and other services are not covered by the IFTA, when such services are not used to provide Internet access. This is the case even though such services may be provided over the same facilities used to provide Internet access. Therefore, Layer 2 transmission services provided to an end user who owns its own POP are taxable telecommunications services that do not come within the scope of the IFTA.

The Tennessee sales and use tax will therefore be imposed on the Layer 2 transmission service provided to an end user who owns its own POP.

2. Telecommunications services the Taxpayer purchases in order to provide DSL Internet access services

Tennessee will not impose the Tennessee sales and use tax on the telecommunications services the Taxpayer purchases in order to provide DSL Internet access services, provided that the Taxpayer uses such telecommunications services exclusively to provide Internet access services.

Sales of telecommunications services are subject to sales tax pursuant to Tenn. Code Ann. § 67-6-205(c)(3). However, the ITFA prohibits Tennessee from imposing a sales tax upon the retail sale of telecommunications services to providers of Internet access for use in providing Internet access. ITFA 47 § 1105(5), U.S.C. § 151, note. The purchase of telecommunications services by the Taxpayer will therefore not be subject to the Tennessee sales and use tax, provided that the Taxpayer uses those telecommunications services to provide Internet access services.

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